# In re Amican

# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE



Avraham LEVY et al

Serial No.:

10/750,909

Filed:

January 5, 2004

For:

METHOD FOR LARGE SCALE MUTAGENESIS

IN TOMATO PLANTS

*\$* 

Group Art Unit: 1638

Attorney

Docket: 27282

Examiner:

IBRAHIM, MEDINA AHMED

Mail Stop Amendment Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

# SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Sir:

Enclosed is a PTO Form 1449 which lists citations which may be material to the patentability and examination of the above identified application. Also enclosed are copies of the references cited. These are submitted in compliance with the duty of disclosure defined in 37 CFR 1.56. The Examiner is requested to make these citations of official record in this application.

This Supplemental Information Disclosure Statement under 37 CFR 1.56 is not to be construed as a representation that a search has been made, that additional matter which is material to the examination of this application does not exist, or that any or more of these citations constitutes prior art.

Respectfully submitted,

Martin D. Moynihan Registration No. 40,338

Dated: November 2, 2006

PTO/SB/08a (08-03)

Approved for use through 07/31/2006. OMB 0651-0031

U.S.Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Commerce of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Under the Pa	perwork	of 1995, no	persons	are required to respond to a co	llection of information unless it cor	ntains a valid ON	MB control number.	
Substitute for form 1449A/PTO					Complete if Known			
		Substitute for form	1449/()	710	Application Number	10/750,909		
SU	PPL	EMENTAL II			Filing Date	January 5, 2004		
		DISCLOS			First Named Inventor	Avraham LEVY et al		
STATEMENT BY APPLICANT					Art Unit	1638		
(use as many sheets as necessary)				essary)	Examiner Name	IBRAHIM	, MEDINA AHMED	
Sheet		1	of	4	Attorney Docket Number 27282			
U.S. PATENT DOCUMENTS								
Examiner	Examine: See Bootiment (value)			Publication Date MM-DD-YYYY			Pages, Columns, Lines, Where Relevant Passages or Relevant	
Initials*	No.				Applicant of Cited Document		Figures Appear	
		Number-Kind Code <sup>2 (if)</sup>	known)					
	1	US-5,523,520 06-04-1996 Hunsperger		Hunsperger et a	al			
	2	US-6,759,569		07-06-2004	Levy et al.			
	3	US-4,732,856		03-22-1988	Federoff			
	4	US-5,013,658		05-07-1991	Dooner et al.			
	5	US-5,149,645		09-22-1992	Hoeckema et al.			
	6 US-5,225,341			07-06-1993	Yoder et al.			
	7	US-5,482,852		01-09-1996	Yoder et al.			

**Briggs** 

05-12-1998

US-5,749,169

FOREIGN PATENT DOCUMENTS									
Examiner Initials*	Cite No. 1	Foreign Patent Documents	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document		Pages, Columns, Lines, Where Relevant Passages			
		Country Code <sup>3</sup> - Number <sup>4</sup> - Kind Code <sup>5</sup> (if known)	Nephram of Ch		tor chea Bocament	or Relevant Figures Appear	L		
9 WO 99/12411		WO 99/12411	03-18-1999 Levy e		al.		L		
	10 WO 96/39803		12-19-1996	Briggs			L		
	11	WO 92/01370	06-6-1992	Yoder et al.					
	12 EP 0436007		07-26-1990	Offringa	et al.		L		
13		EP 0563527	06-6-1993	Schafer et al.					
	14	EP 0289947	09-9-1988	Wilson			-		
Examine	er l				Date		L_		
Signatur					Considered				

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of copy of this form with next communication to applicant. Applicant's unique citation designation number (optional). See Kinds Codes of USPTO Patent Documents at <a href="https://www.uspto.gov">www.uspto.gov</a> or MPEP 901.04. Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. Sind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. Applicant is to place a check mark here if English language Translation is attached.

Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. this collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS.

SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450

PTO/SB/08b (08-03)

Approved for use through 06/30/2006. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

## Complete if Known Substitute for form 1449A/PTO Application Number 10/750,909 SUPPLEMENTAL INFORMATION Filing Date January 5, 2004 **DISCLOSURE** First Named Inventor Avraham LEVY et al STATEMENT BY APPLICANT Group Art Unit IBRAHIM, MEDINA AHMED (use as many sheets as necessary) **Examiner Name**

Sheet	2	of	4	Attorney Docket Number	27282					
	OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS				CUMENTS					
Examiner Initials	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.				T <sup>2</sup>				
	15	Bishop et al. "The Tomato Dwarf Gene Isolated by Heterologous Transposon Tagging Encodes the first Member of a New Cytochrome P450 Family", The Plant Cell, 8(6):959-969, 1996. Claims: X: 22,26-32, Y: 18-21.								
	16	Genetics and Geno	mics, 213(2-3): 291-	genic Tomato Plants", M 296, 1988. Abstract.						
•	17	Using A Frozen TruUSA, 90: 7431-743	ansposon Insertion N 55, 1993.	ctivation in Ceanorhabdit Mutant Bank", Proc. Natl.	Acad. Sci.					
	18	Cooley et al. "Site-Selected Insertional Mutagenesis of Tomato With Maize Ac and Ds Elements", Molecular Genetics and Genomics, 252(1-2): 184-194, 1996. Abstract.								
	19	Damasco et al. "Gibberellic Acid Detection of Draft Offtypes in Microspropogated Cavendish Bananas", Australian Journal of Experimental Agriculture, 36(2): 237-241, 1996. Abstract.								
	20	Scott et al. "Influence of Pollination Treatments on Fruit Set and Development in Parthenocarpic Tomato", HortScience, 19(6): 874-876, 1984.								
	- 21	Scott et al. " Micro 1989.	-Tom. A Miniature I	Dwarf Tomato", IFAS Ci	rcular, 370: 1-6,					
	22			varf Tomato", HortScienc	e, 30(3): 643-					
	23	Ballinger et al. "Ta USA, 86: 9402-940	rgeted Gene Mutatio	ons in Drosophila", Proc.	Natl. Acad.Sci.					
	24	Bensen et al. "Clor Cell, 7: 75-84, 199	ing and Characteriz	ation of the Maize An1 G	ene", The Plant					
	25	Carroll et al. "Gern	ninal Transpositions	of the Maize Element Dics, 139: 407-420, 1995.	ssociation	- 332				
	26	Cresse et al. "Mul-	Related Transposab	le Elements of Maize Pre Genetics, 140: 315-324,	ferentially 1995.	·				
	27	Federoff et al. "Clo Generalizable Proc (Ac)", Proc. Natl.	oning of the Bronze ledure Using the Tra Acad. Sci. USA, 81(	Locus in Maize by A Simnsposable Controlling El 12): 3825-3829, 1984. Al	pple and ement Activator ostract.					
	28	Arabidopsis", Plan	t Journal, 3(2): 273-	Detecting Transposition 289, 1993. Abstract.						
	29	Fragments to High 1983. Abstract.	Specific Activity",	labeling DNA Restriction Analyses in Biochemistry	/, 132(1): 6-13,					
	30		grobacterium Tumef	Hyphosate Tolerance Gen aciens Vector", Bio/Tech						
	31	Gorbunova et al. "		Transposons: Formation,	Structure and					

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not

considered. Include copy of this form with next communication to applicant.

1. Applicant's unique citation designation number (optional).

2. Applicant's unique citation designation number (optional).

3. Applicant's unique citation designation number (optional).

4. Applicant's unique citation designation number (optional).

5. Applicant's unique citation designation number (optional).

6. Applicant's unique citation designation number (optional).

7. Applicant's unique citation designation number (optional).

7. Applicant's unique citation designation is attached.

8. Applicant's unique citation designation is attached.

9. Applicant's unique citation designation is

PTO/SB/08b (08-03) Approved for use through 06/30/2006. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE ct of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

# SUPPLEMENTAL INFORMATION **DISCLOSURE** STATEMENT BY APPLICANT

Substitute for form 1449A/PTO

(use as many sheets as necessary)

Complete if Known Application Number 10/750,909 Filing Date January 5, 2004 First Named Inventor Avraham LEVY et al Group Art Unit 1638 Examiner Name IBRAHIM, MEDINA AHMED

(use as many sneets as necessary)			Examiner Name IBRAHIM, MEDINA AHMED							
Sheet	3	of 4	Attorney Docket Number	27282						
		OTHER PRIOR ART – NON F	PATENT LITERATURE DO	CUMENTS						
Examiner	Cite	Include name of the author (in CAPITAL L								
Initials	No.1	the item (book, magazine, journal, serial symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.								
	32	Greenblatt "A Chromosome Replic		Pericarn						
	32	Phenotypes Resulting From Movem								
		Modulator, in Maize", Genetics, 10		ment,						
	33	Hedden et al. "Gibberellin Biosynth		heir						
		Regulation", Annual Review of Pla								
		48: 431-460, 1997. Abstract.	,							
	34	Hoekema et al. "A Binary Plant Vector Strategy Based on Separation of Vir-								
		and T-Region of the Agrobacterium Tumefaciens Ti-Plasmid", Nature, 303:								
		179-180. 1983. Abstract.	ŕ							
	35	Horsch et al. "A Simple and General Method for Transferring Genes Into								
		Plants", Science, 227(4691): 1229-1231, 1985. Abstract.								
	36	Jones et al. "Preferential Transposit	tion of the Maize Element Ac	ctivator to						
		Linked Chromosomal Locations in	Tobacco", The Plant Cell, 2:	701-707, 1990.						
	37	Kaiser et al. "'Site-Selected' Transp	oson Mutagenesis of Drosop	hila", Proc.						
		Natl. Acad. Sci. USA, 87: 1686-1690, 1990.								
•	38	Keddie etal. "The DCL Gene of Tomato Is Required for Chloroplast								
		Development and Palisade Cell Mo	orphogenesis in Leaves", The	EMBO						
		Journal, 15(16): 4208-4217, 1996.								
	39	Knapp et al. "Transgenic Tomato Lines Containing Ds Elements at Defined								
		Genomic Positions as Tools for Targeted Transposon Tagging", Mol. Gen. Genet., 243: 666-673, 1994. P. 666 Right Hand Column: par.1.Abstract.								
			6 Right Hand Column: par.1.	Abstract.						
		Claims: 33-36.								
	40	Leutwiler et al. "The DNA of Arab		Genetics and						
	4.1	Genomics, 194(1-2): 15-23, 1984.								
	41	Mena et al. "Diversification of C-F								
	42	Development", Science, 274(5292)  Osborne et al. "Ac Transposition Fi								
	42	Unlinked Clusters of Insertions in								
		1991.	i omato denome, denemes,	129. 633-644,						
	43	Rommens et al. "Characterization of	of the Ac/Ds Rehaviour in Tr	ansgenic						
	7.5	Tomato Plants Using Plasmid Resc								
		1992. Abstract.	de , i lant Moleculai Biology	,, 20(1). 01 70,						
	44	Schoenmakers et al. Isolation and C	Characterization of Nitrate Re	ecuctase-						
		Deficient Mutants in Tomato (Lyco								
		and Gene Genetics, 227: 458-464,		, , ========						
	45	Scott et al. "Adjacent Sequences In		panying						
		Transposon Excision in Maize", Ge								
	46	Shalev et al. "The Maize Transposa		ombination						
		Between the Donor Site and An Ho								
		146: 1143-1151, 1997.								

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not

considered. Include copy of this form with next communication to applicant.

1. Applicant's unique citation designation number (optional).

2. Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. this collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS.

PTO/SB/08b (08-03)

Approved for use through 06/30/2006. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Complete if Known Substitute for form 1449A/PTO Application Number 10/750,909 SUPPLEMENTAL INFORMATION Filing Date January 5, 2004 **DISCLOSURE** First Named Inventor Avraham LEVY et al STATEMENT BY APPLICANT Group Art Unit 1638 IBRAHIM, MEDINA AHMED (use as many sheets as necessary) **Examiner Name** Attorney Docket Number 27282 of Sheet OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of Cite Examiner the item (book, magazine, journal, serial symposium, catalog, etc.) date, page(s), volume-issue T<sup>2</sup> No.1 Initials number(s), publisher, city and/or country where published. 47 Sundaresan et al. "Pattern of Gene Action in Plant Development Revealed by Enhancer Trap and Gene Trap Transposable Elements", Genes & Development, 9(14): 1797-1810, 1995. Abstract. 48 Thomas et al. "Analysis of the Chromosomal Distribution of Transposon-Carrying T-DNAs in Tomato Using the Inverse Polymerase Chain Reaction", Molecular Genetics and Genomics, 242(5): 573-585, 1994. Abstract. Weide et al. "A Simple, Nondestructive Spraying Assay for the Detection of An 49 Active Kanamycin Resistance Gene in Transgenic Tomato Plants", Theoretical Applied Genetics, 78(2): 169-172, 1989. Abstract. Weigel et al. "A Development Switch Sufficient for Flower Initiation in Diverse 50 Plants", Nature, 377(6549): 495-500, 1995. Abstract. Wisman et al. "Genetic and Molecular Characterization of Adh-1 Null Mutant 51 in Tomato", Molecular Genetics and Genomics, 226: 120-128, 1991. Abstract.

Signature	Considered	

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not

considered. Include copy of this form with next communication to applicant.

1. Applicant's unique citation designation number (optional).

2. Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. this collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of commerce, P.O. Box 1450, Alexandria, VA 22313-1450, DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.